

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A chirped pulse ~~amplifier~~ amplification system for a fiber optic system, the ~~amplifier~~ chirped pulse amplification system comprising:  
a mode-locked laser; and  
a pulse selector coupled to an output of the mode-locked laser, wherein the pulse selector modulates an output stream of pulses based upon an applied modulation voltage.
2. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 1, wherein the pulse selector comprises an electro-optic modulator.
3. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 2, wherein the electro-optic modulator is a LiNbO<sub>3</sub> modulator.
4. (withdrawn).
5. (currently amended): A chirped pulse ~~amplifier~~ amplification system for a fiber optic system, the ~~amplifier~~ chirped pulse amplification system comprising:  
a mode-locked laser;

a polarization-maintaining device coupled to an output of the mode-locked laser;  
a pulse stretcher coupled to a first output of the polarization-maintaining device;  
an amplifier coupled to the pulse stretcher; and  
a first pulse selector coupled to a second output of the polarization-maintaining device.

6. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the pulse stretcher comprises:

a non-polarization-maintaining dispersion compensating fiber; and  
a Faraday rotator mirror.

7. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the pulse stretcher comprises:

a non-polarization-maintaining dispersion shifted fiber; and  
a Faraday rotator mirror.

8. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the pulse stretcher comprises:

a linearly chirped fiber grating; and  
a Faraday rotator.

9. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the pulse stretcher comprises:

- a non-linearly chirped fiber grating; and
- a Faraday rotator.

10. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the ~~amplifier~~ chirped pulse amplification system comprises:

- an erbium doped fiber amplifier, ~~or a erbium/ytterbium~~ an erbium and ytterbium doped fiber amplifier, or a ytterbium doped fiber amplifier;
- a wavelength division multiplexer; and
- a diode pump.

11. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the first pulse selector comprises an electro-optic modulator or an electro-absorption modulator.

12. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the polarization-maintaining device comprises a polarization-maintaining beam router, wherein a fiber polarization axis orientation of the input and output fibers matches the orientation of ~~the~~ a polarization beam splitter within the polarization-maintaining device.

13. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, wherein the polarization-maintaining device comprises:

a polarization-maintaining beam router, wherein a ~~fiber~~ polarization axis orientation of the input and output fibers matches the orientation of ~~the~~ a polarization beam splitter within the polarization-maintaining device; and

a Faraday rotator, a transmissive optical device, and a mirror disposed at a first port of the polarization-maintaining beam router; and

~~— a Faraday rotator mirror at that port of the polarization-maintaining beam router in case the optical device is transmissive.~~

14. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 5, further comprising:

a second pulse selector coupled to an output of the first pulse selector; and

a synchronization controller that synchronizes the first pulse selector with the second pulse selector.

15. (currently amended): The chirped pulse ~~amplifier~~ amplification system according to claim 14, wherein the second pulse selector comprises an electro-optic modulator or an electro-absorption modulator.

16. (currently amended): A chirped pulse ~~amplifier~~ amplification system for a fiber optic system operating at approximately 1550 nanometers ~~or other wavelength~~, the amplifier comprising:

- a mode-locked laser;
- a polarization-maintaining device coupled to an output of the mode-locked laser;
- a pulse stretcher coupled to a first output of the polarization-maintaining device;
- a first amplifier coupled to the pulse stretcher;
- a pulse selector coupled to the first amplifier; and
- a second amplifier coupled through a beam splitter to a second output of the polarization-maintaining device.

17-34. (withdrawn).

35. (new): The chirped pulse amplification system according to claim 5, wherein the polarization-maintaining device comprises:

- a polarization-maintaining beam router, wherein a polarization axis orientation of the input and output fibers matches the orientation of a polarization beam splitter within the polarization-maintaining device; and

- a Faraday rotator mirror disposed at a first port of the polarization-maintaining beam router.